IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Hauser et al. **GROUP:** 2813

SERIAL NO. 10/685,308 **EXAMINER:** J. Mitchell

FILING DATE: October 14, 2003

FOR: AN ELECTRONIC COMPONENT WITH A LEADFRAME

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

APPEAL BRIEF

This appeal is in response to the Official Action dated June 3, 2008, which has been made final, and the Notice of Appeal filed September 3, 2008. Please charge our deposit account no. 50-3381 in the amount of $510 for the Appeal Brief fee.

I hereby certify that this correspondence (along with any paper referred to as being attached or enclosed) is being transmitted electronically to the Commissioner for Patents via EFS-web, on the date indicated below.

Kim M. Fiorentino
Kim M. Fiorentino
11/3/08
Date

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I. REAL PARTY IN INTEREST

The real party in interest is Micronas GmbH of Freiburg, Germany.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

On April 8, 2008, the appellant appealed from the final rejection of claims 1, 5, 7-11, 13, 17 and 19-28 under 35 U.S.C. §103(a). Claims 1, 5, 7-11, 13, 17 and 19-28, which are set forth in the Claims Appendix attached hereto, are all the remaining claims in this application.

IV. STATUS OF AMENDMENTS

No amendments have been filed subsequent to the final rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The invention relates to an electronic component.

Claim 1 recites an electronic component. The various elements recited in claim 1 are discussed in the specification in at least the following locations in U.S. Pub. No. 2004/0113240 A1, amongst others:

> An electronic component, comprising: {**paragraph [0019]**}
>
> a leadframe; {**paragraphs [0019]-[0020]; FIGs. 1-3, elements 2, 6' and 6"**}
>
> a platform; {**paragraph [0020]; FIGs. 1-4, element 5**}
>
> an electronic member located on the platform and connected to the leadframe by electrical conductors; and {**paragraph [0020]; FIGs. 1 and 4, elements 2-3, 5, 6', 6" and 21**}
>
> a housing which encloses the electronic member and the platform, where first and second support regions each comprising a lobe are provided on the platform on corresponding peripheral portions to support the platform during fabrication of the housing, where the housing has upper and lower support indentations formed therein that expose an upper surface and a lower surface, respectively, of an outer peripheral portion of each lobe whereby each lobe supported the platform during fabrication of the housing, and at least a portion of the first and second support regions project beyond the housing subsequent to the fabrication of the housing. {**paragraphs [0019]-[0022]; FIGs. 1-4, elements 4 and 7**}

Claim 17 recites a Hall effect sensing device. The various elements recited in claim 17 are discussed in the specification in at least the following locations in U.S. Pub. No. 2004/0113240 A1, amongst others:

> A Hall effect sensing device, comprising: {**paragraph [0019]**}
>
> a leadframe; {**paragraphs [0019]-[0020]; FIGs. 1-3, elements 2, 6' and 6"**}
>
> a platform; {**paragraph [0020]; FIGs. 1-4, element 5**}
>
> a magnetic sensing element located on the platform and connected to the leadframe by electrical conductors; and {**paragraphs [0003], [0019]-[0020]; FIGs. 1 and 4, elements 2-3, 5, 6', 6" and 21**}
>
> a housing which encloses the magnetic sensing element and at least a central portion of the platform, where first and second lobes are provided on opposite peripheral ends of the platform to support the platform during fabrication of the housing, where at least a portion of the first and second lobes project beyond the housing subsequent to fabrication of the housing, and a first notch-shaped depression is located between the first lobe and the platform to provide a first moisture barrier, and a second notch-shaped depression is located between the second lobe and the platform to provide a second moisture barrier, where the first and second moisture barriers are within the housing. {**paragraphs [0019]-[0022]; FIGs. 1-4, elements 4 and 7**}

Claim 21 recites a magnetic sensing device. The various elements recited in claim 21 are discussed in the specification in at least the following locations in U.S. Pub. No. 2004/0113240 A1, amongst others:

> A magnetic sensing device, comprising: {**paragraph [0019]**}
>
> a leadframe; {**paragraphs [0019]-[0020]; FIGs. 1-3, elements 2, 6' and 6"**}
>
> a platform; **paragraph [0020]; FIGs. 1-4, element 5**}
>
> a semiconductor die comprising a magnetic sensing element located on the platform and connected to the leadframe by electrical conductors; and {**paragraphs [0003], [0019]-[0020]; FIGs. 1 and 4, elements 2-3, 5, 6, 6" and 21**}
>
> a package that encloses the semiconductor die and at least a central portion of the platform, where first and second lobes are provided on opposite peripheral ends of the platform to support the platform during fabrication of the package, where the package has upper and lower support indentations formed therein that expose an upper surface and a lower surface, respectively, of an outer peripheral portion of each lobe to thereby allow each lobe to support the platform during fabrication of the package, where at least a portion of the first and second lobes project beyond the package subsequent to fabrication of the housing. {**paragraphs [0019]-[0022]; FIGs. 1-4, elements 4 and 7**}

Claim 26 recites a magnetic sensing device. The various elements recited in claim 26 are discussed in the specification in at least the following locations in U.S. Pub. No. 2004/0113240 A1, amongst others:

A magnetic sensing device, comprising: {**paragraph [0019]**}

a leadframe; {**paragraphs [0019]-[0020]; FIGs. 1-3, elements 2, 6' and 6"**}

a platform; **paragraph [0020]; FIGs. 1-4, element 5**}

a semiconductor die comprising a magnetic sensing element located on the platform and connected to the leadframe by electrical conductors; and {**paragraph [0020]; FIGs. 1 and 4, elements 2-3, 5, 6'-6" and 21**}

means for packaging the semiconductor die and at least a central portion of the platform, where first and second lobes are provided on opposite peripheral ends of the platform and extend along a common axis outside the means for packaging, where the means for packaging has upper and lower support indentations formed therein that expose an upper surface and a lower surface, respectively, of an outer peripheral portion of each lobe to thereby allow each lobe to support the platform during fabrication of the means for packaging, and each lobe extends outside the means for packaging subsequent to fabrication of the means for packaging. {**paragraph [0022]; FIG. 4, elements 5 and 7**}

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1, 7 and 8 are obvious in view of JP 361095536 to Totokawa (hereinafter "Totokawa").

2. Whether claim 5 is obvious in view of Totokawa and U.S. Patent 6,197,615 to Song et al. (hereinafter "Song").

3. Whether claims 9 and 11 are obvious in view of Totokawa and U.S. Published Application 2001/0010949 to Miyaki et al. (hereinafter "Miyaki").

4. Whether claim 10 is obvious in view of Totokawa and U.S. Patent 5,458,158 to Kawanabe (hereinafter "Kawanabe").

5. Whether claims 13, 21 and 26 are obvious in view of Totokawa and U.S. Patent 5,247,202 to Popovic et al. (hereinafter "Popovic").

6. Whether claims 17, 20, 22-25, 27 and 28 are obvious in view of Totokawa, Popovic and Song.

7. Whether claim 19 is obvious in view of Totokawa, Popovic, Song and Kawanabe.

VII. ARGUMENT

REJECTION UNDER 35 U.S.C. §103(A)

1. Claims 1, 7 and 8 currently stand rejected for allegedly being obvious in view of Japanese Patent 361095536 (hereinafter "Totokawa").

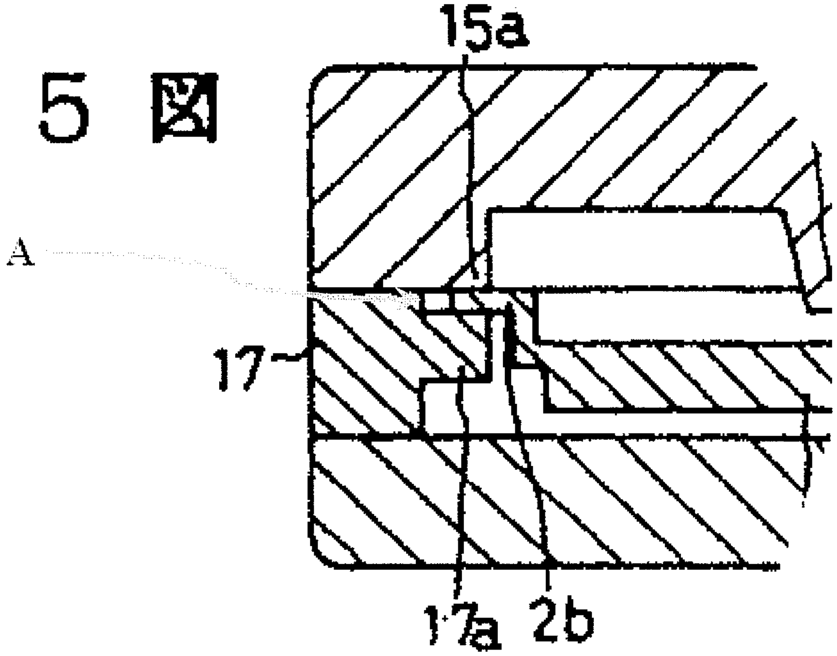
Claim 1

Claim 1 recites an electronic component that comprises:

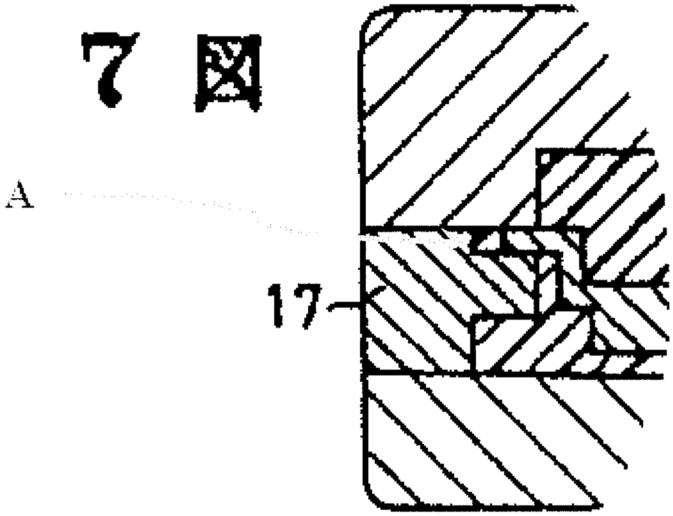
> "a leadframe;
> a platform;
> an electronic member located on the platform and connected to the leadframe by electrical conductors; and
> a housing which encloses the electronic member and the platform, where first and second support regions each comprising a lobe are provided on the platform on corresponding peripheral portions to support the platform during fabrication of the housing, where the housing has upper and lower support indentations formed therein that expose an upper surface and a lower surface, respectively, of an outer peripheral portion of each lobe whereby each lobe supported the platform during fabrication of the housing, and at least a portion of the first and second support regions project beyond the housing subsequent to the fabrication of the housing." (emphasis added, cl. 1).

The Official Action cites FIG. 9 of Totokawa for its contention that Totokawa discloses the claimed feature of the first and second support regions projecting beyond the housing. However, FIGs. 5, 7 and 9 of Totokawa fail to reveal any structure that extends beyond the housing. FIG. 5 illustrates a supporting plate 2 and an external lead 5 between the mold halves 15 and 16. FIG. 7 illustrates the supporting plate 2 and the external lead 5 between the mold halves 15 and 16 filled with resin 20. FIG. 9 illustrates the molded resin body 20. Marked portions of FIGs. 5, 7 and 9 are reproduced below for convenience.

5 図



7 図



9 図

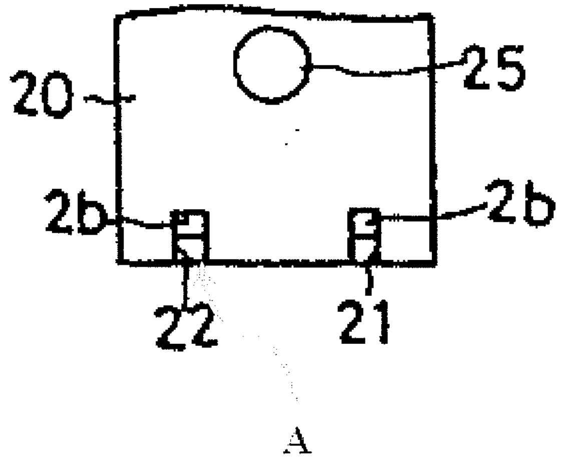


FIG. 5 illustrates an empty portion A of the mold cavity. FIG. 7 illustrates the portion A of the mold cavity filled with resin 20. FIG. 9 clearly illustrates that the resin-filled portion A, part of the resin body 20, caps the ends 2b of the supporting plates 2. In other words, the ends 2b of the support plate 2 are incapable of projecting beyond the resin body 20 because the resin-filled portion A caps the ends 2b. Thus, a fair and proper reading of Totokawa as a whole, including FIGs. 5, 7 and 9, fails to reveal any disclosure of, or even a suggestion of the claimed feature of *"and at least a portion of the first and second support regions project beyond the housing subsequent to the fabrication of the housing."* (emphasis added, cl. 1). In addition, there is no suggestion that a person of ordinary creativity would have considered such a feature at the time of the present invention. Therefore, it is respectfully submitted that claim 1 is patentable in view of Totokawa.

Claims 7 and 8

Claims 7 and 8 depend directly on claim 1 and should be allowable for at least the same reasons as the claim from which they depend.

2. Claim 5 currently stands rejected for allegedly being obvious in view of the combined subject matter disclosed in Totokawa and U.S. Patent 6,197,615 to Song (hereinafter "Song").

Claim 5

Regarding claim 5, assuming without admitting that Totokawa and Song may be properly combined, neither teaches or suggests the electronic component of claim 1, further comprising:

> "a transition zone located between the lobe and a remaining portion of the platform, where at least one notch-shaped depression is provided within the transition zone." (cl. 5).

Song teaches that "[*the*] *dimples 30 formed on the upper surface 10a of the die pad 10 enhance the bonding strength between the die pad 10 and the semiconductor device 14 mounted thereon by increasing the contact area between them. The dimples 30 formed on the lower surface 10b of the die pad 10 enhance the bonding strength between the die pad 10 and the molding compound 90... by increasing the contact area between them.*" (col. 3, line 62 to col. 4, line 3). In other words, as illustrated in FIG. 3 of Song, the dimples 30 are formed over the majority of the surfaces 10a and 10b of the die pad 10, except for the ends of the of the die pad. Thus, according to a fair and proper reading, Song does not disclose or suggest "*a transition zone located between the lobe and a remaining portion of the platform.*" (cl. 5). Assuming Song did disclose such a transition zone, it would be located between the surface covered with dimples 30 and the ends of the die pad, which would, as illustrated in FIG. 3, be devoid of dimples 30. Therefore, Totokawa and Song are incapable of teaching or suggesting the feature of "*a transition zone located between the lobe and a remaining portion of the platform, where at least one notch-shaped depression is provided within the transition zone.*" (cl. 5).

In addition, it is respectfully submitted that the rejection of this claim is moot, since claim 5 depends directly from claim 1, which is patentable for at least the reasons set forth above.

3. Claims 9 and 11 currently stand rejected for allegedly being obvious in view of the combined subject matter disclosed in Totokawa and U.S. Published Application 2001/0010949 to Miyaki (hereinafter "Miyaki").

Claims 9 and 11

It is respectfully submitted that the rejection of these claims is moot, since claims 9 and 11 depend directly from claim 1, which is patentable for at least the reasons set forth above.

4. Claim 10 currently stands rejected for allegedly being obvious in view of the combined subject matter disclosed in Totokawa and U.S. Patent 5,548,158 to Kawanabe (hereinafter "Kawanabe").

Claim 10

It is respectfully submitted that the rejection of these claims is moot, since claim 10 depends directly from claim 1, which is patentable for at least the reasons set forth above.

5. Claims 13, 21 and 26 currently stand rejected for allegedly being obvious in view of the combined subject matter disclosed in Totokawa and U.S. Patent 5,247,202 to Popovic (hereinafter "Popovic").

Claim 13

It is respectfully submitted that this rejection is now moot since claim 13 depends from claim 1, which is patentable for at least the reasons set forth above.

Claim 21

Claim 21 recites a magnetic sensing device that comprises:

> "a leadframe;
> a platform;
> a semiconductor die comprising a magnetic sensing element located on the platform and connected to the leadframe by electrical conductors; and
> a package that encloses the semiconductor die and at least a central portion of the platform, where first and second lobes are provided on opposite peripheral ends of the platform to support the platform during fabrication of the package, where the package has upper and lower support indentations formed therein that expose an upper surface and a lower surface, respectively, of an outer peripheral portion of each lobe to thereby allow each lobe to support the platform during fabrication of the package, where at least a portion of the first and second lobes project beyond the package subsequent to fabrication of the housing." (emphasis added, cl. 21)

The Official Action contends that Totokawa *"discloses the elements stated in paragraphs 4-6 of this office action, but fails to explicitly disclose its chip comprises a Hall Effect sensing device."* (Official Action, pg. 5). The Official Action alleges that Popovic discloses a semiconductor hall sensing chip, and that a skilled person would have modified Totokawa based upon the teachings of Popovic. (see Official Action, pages 5-6). However, as set forth above with respect to claim 1, Totokawa neither discloses nor suggests that "*at least a portion of the first and second lobes project beyond the package subsequent to fabrication of the housing*." (cl. 21). Therefore, assuming for the moment without admitting that Totokawa and Popovic are properly combinable, even if these references were combined, the combined teachings still fail to suggest to a person of ordinary creativity the claimed feature of *"where at least a portion of the first and second lobes project beyond the package subsequent to fabrication of the housing."* (cl. 21).

Claim 26

Since claim 26 currently stands rejected for the same reasons as claim 21, the arguments above with respect to the patentability of claims 1 and 21 also apply to claim 26. That is, assuming for the moment without admitting that Totokawa and Popovic are properly combinable, even if these references were combined, the combined teachings still fail to suggest to a person of ordinary creativity the claimed feature of "*each lobe extends outside the means for packaging subsequent to fabrication of the means for packaging.*" (cl. 21). As a result, it is respectfully submitted that claim 26 is patentable over the combination of Totokawa and Popovic.

6. Claims 17, 20, 22-25, 27 and 28 currently stand rejected for allegedly being obvious in view of the combined subject matter disclosed in Totokawa, Popovic and Song.

Claim 17

The Official Action contends that Totokawa *"discloses the elements stated in paragraphs 4-6 of this office action ... , but fails to explicitly disclose its chip comprises a Hall Effect sensing device or notches formed in the lobes.*" (Official Action, pg. 6). The Official Action alleges that Popovic discloses a semiconductor hall sensing chip, and Song discloses notches. The Official Action concludes that a skilled person would have modified Totokawa based upon the teachings of Popovic and Song. (see Official Action, page 6). However, as set forth above with respect to claim 1, Totokawa neither discloses nor suggests that at least a portion of the first and second lobes project beyond the package subsequent to fabrication of the housing. Therefore, assuming for the moment without admitting that Totokawa, Popovic and Song are properly combinable, even if these references were combined, the combined teachings still fail to suggest to a person of ordinary creativity the claimed feature of *"where at least a portion of the first and second lobes project beyond the housing subsequent to fabrication of the housing"*. (cl. 17).

Claims 20, 22-25 and 27-28

Claims 20, 22-25 and 27-28 depend directly or indirectly on claims 17, 21 and 26 and should be allowable for at least the same reasons as the claims from which they depend.

7. Claim 19 currently stands rejected for allegedly being obvious in view of Totokawa, Popovic, Song and Kawanabe.

Claim 19

It is respectfully submitted that the rejection of this claim is moot, since claim 19 depends indirectly from claim 17, which is patentable for at least the reasons set forth above.

CONCLUSION

For all the foregoing reasons, we submit that the rejection of claims 1, 5, 7-11, 13, 17 and 19-28 is erroneous and reversal thereof is respectfully requested.

If there are any additional fees due in connection with the filing of this appeal brief, please charge them to our Deposit Account 50-3381. If a fee is required for any extension of time under 37 C.F.R. §1.136 not accounted for above, such an extension is requested and the fee should be charged to the above Deposit Account.

Respectfully submitted,

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CLAIMS APPENDIX

1. (Previously Presented) An electronic component, comprising:

a leadframe;

a platform;

an electronic member located on the platform and connected to the leadframe by electrical conductors; and

a housing which encloses the electronic member and the platform, where first and second support regions each comprising a lobe are provided on the platform on corresponding peripheral portions to support the platform during fabrication of the housing, where the housing has upper and lower support indentations formed therein that expose an upper surface and a lower surface, respectively, of an outer peripheral portion of each lobe whereby each lobe supported the platform during fabrication of the housing, and at least a portion of the first and second support regions project beyond the housing subsequent to the fabrication of the housing.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5.(Previously Presented) The electronic component of claim 1, further comprising a transition zone located between the lobe and a remaining portion of the platform, where at least one notch-shaped depression is provided within the transition zone.

6. (Cancelled)

7. (Previously Presented) The electronic component of claim 1, where the leadframe comprises at least one connecting piece that protrudes from the housing, where the at least one connecting piece is connected to the electronic member.

8. (Previously Presented) The electronic component of claim 1, where the leadframe comprises a plurality of connecting pieces that each protrude from the housing, where each connecting piece is connected to the electronic member.

9. (Previously Presented) The electronic component of claim 1, where the leadframe comprises a metal alloy.

10. (Previously Presented) The electronic component of claim 1, where a thin anticorrosive film extends along at least a section of the lobe element.

11. (Previously Presented) The electronic component of claim 1, where at least a section of a surface of the leadframe is coated with a metal alloy.

12. (Cancelled)

13. (Previously Presented) The electronic component of claim 1, where the electronic member comprises a Hall effect sensing device.

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Previously Presented) A Hall effect sensing device, comprising:

a leadframe;

a platform;

a magnetic sensing element located on the platform and connected to the leadframe by electrical conductors; and

a housing which encloses the magnetic sensing element and at least a central portion of the platform, where first and second lobes are provided on opposite peripheral ends of the platform to support the platform during fabrication of the housing, where at least a portion of the first and second lobes project beyond the housing subsequent to fabrication of the housing, and a first notch-shaped depression is located between the first lobe and the platform to provide a first moisture barrier, and a second notch-shaped depression is located between the second lobe and the platform to provide a second moisture barrier, where the first and second moisture barriers are within the housing.

18. (Cancelled)

19. (Previously Presented) The Hall effect sensing device of claim 18, where a thin anticorrosive film extends along at least a section of the first lobe and along a section of the second lobe.

20. (Previously Presented) The Hall effect sensing device of claim 17, where the first and second lobes extend along the same axis.

21. (Previously Presented) A magnetic sensing device, comprising:

a leadframe;

a platform;

a semiconductor die comprising a magnetic sensing element located on the platform and connected to the leadframe by electrical conductors; and

a package that encloses the semiconductor die and at least a central portion of the platform, where first and second lobes are provided on opposite peripheral ends of the platform to support the platform during fabrication of the package, where the package has upper and lower support indentations formed therein that expose an upper surface and a lower surface, respectively, of an outer peripheral portion of each lobe to thereby allow each lobe to support the platform during fabrication of the package, where at least a portion of the first and second lobes project beyond the package subsequent to fabrication of the housing.

22. (Previously Presented) The magnetic sensing device of claim 21, comprising a first notch-shaped depression located between the first lobe and the platform to provide a first moisture barrier, and a second notch-shaped depression located between the second lobe and the platform to provide a second moisture barrier

23. (Previously Presented) The sensing device of claim 22, where a thin anticorrosive film extends along at least a section of the first lobe and along a section of the second lobe.

24. (Previously Presented) The sensing device of claim 23, where the first and second lobes extend along the same axis.

25. (Previously Presented) The sensing device of claim 24, where the semiconductor die comprises a Hall effect sensing element.

26. (Previously Presented) A magnetic sensing device, comprising:

a leadframe;

a platform;

a semiconductor die comprising a magnetic sensing element located on the platform and connected to the leadframe by electrical conductors; and

means for packaging the semiconductor die and at least a central portion of the platform, where first and second lobes are provided on opposite peripheral ends of the platform and extend along a common axis outside the means for packaging, where the means for packaging has upper and lower support indentations formed therein that expose an upper surface and a lower surface, respectively, of an outer peripheral portion of each lobe to thereby allow each lobe to support the platform during fabrication of the means for packaging, and each lobe extends outside the means for packaging subsequent to fabrication of the means for packaging.

27. (Previously Presented) The magnetic sensing device of claim 26, comprising a first notch-shaped depression located between the first lobe and the platform to provide a first moisture barrier, and a second notch-shaped depression located between the second lobe and the platform to provide a second moisture barrier.

28. (Previously Presented) The magnetic sensing device of claim 27, comprising a thin anticorrosive film extends along at least a section of the first lobe and along a section of the second lobe, where the first and second lobes extend along the same axis, and the semiconductor die comprises a Hall effect sensing element.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.